UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7
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KANSAS CITY, KANSAS 66115

MEMORANDUM

SUBJECT: Final RFA Oversight Sampling and Analysis Plan/QAPjP
General Electric, West Burlington, Iowa

FROM: Douglas J. Brune
Environmental Engineer, QADE/EDSB/ENSV

TO: Don Lininger
IOWA/RCRA/WSTM

THRU: Jeffrey A. Wandtke
Regional Quality Assurance Manager, QADE/EDSB/ENSV

I have completed the review of the subject document, prepared by TES X contractor, Metcalf and Eddy (M&E), and dated September 18, 1991, according to ENSV's Standard Operating Procedure (SOP) 1330.2, "Review of Quality Assurance Related Documents" and against comments provided in my August 6, 1991, memo to you. It appears this revision has adequately addressed the comments provided earlier. Therefore, approval is recommended. Attached please find the original signature approval page. Please provide a copy of the completed original for QAMO records.

If you have any questions, please contact me at 551-5180.

Attachment

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ENVIRONMENTAL PROTECTION AGENCY

TECHNICAL ENFORCEMENT SUPPORT
AT
HAZARDOUS WASTE SITES

TES X

CONTRACT #68-W9-0007
WORK ASSIGNMENT NO. R07031

FINAL
SAMPLING AND ANALYSIS PLAN/ QUALITY ASSURANCE PROJECT PLAN (SAP/QAPjP) GENERAL ELECTRIC COMPANY (GE) WEST BURLINGTON, IOWA

RCRA FACILITY ASSESSMENT
RCRA ENFORCEMENT SUPPORT ACTIVITIES
U.S. EPA REGION VII

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September 18, 1991

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(SAP/QAPjP)
GENERAL ELECTRIC COMPANY (GE)
WEST BURLINGTON, IOWA
RCRA FACILITY ASSESSMENT

prepared for:

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VII
RCRA TECHNICAL ENFORCEMENT SUPPORT
CONTRACT #68-W9-0007
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Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPjP)
GENERAL ELECTRIC COMPANY (GE)
WEST BURLINGTON, IOWA
RCRA FACILITY ASSESSMENT (RFA)

1.0 INTRODUCTION

This document is the Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPjP) for sampling activities by TES X personnel during the RCRA Facility Assessment (RFA) at the General Electric Company (GE) in West Burlington, Iowa. This document has been prepared in support of the U.S. Environmental Protection Agency's (U.S. EPA) Technical Enforcement Support (TES) X Contract, Work Assignment No. R07031, for the U.S. EPA Region VII. This plan has been prepared in accordance with the requirements of the TES X Quality Assurance Program Plan and the following guidelines established by the U.S. EPA:

- U.S. EPA, December 1980. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, QAMS-005/80.
- U.S. EPA, May 1984. Guidance for Preparation of Combined Work/Quality Assurance Project Plans for Environmental Monitoring, OWRS QA-1.
- Metcalf & Eddy Inc., August 1989. Generic Quality Assurance Project Plan for TES X Enforcement Support Activity, Region VII.
- U.S. EPA, February 1, 1991. Region VII Environmental Services Division Operations and Quality Assurance Manual.

This SAP/QAPjP specifies the procedures which must be implemented to assure that sampling activities performed by TES X personnel during field activities meet the project objectives and that samples are labeled, documented, and transferred to the laboratory according to U.S. EPA Region VII protocol.

2.0 PROJECT DESCRIPTION

2.1 Objectives and Approach

As a part of the RFA currently in progress at the GE facility in West Burlington, Iowa, the TES X Contractor will conduct a sampling visit to collect multi-media samples from various locations at the site. The purpose of the sampling activity is to determine if hazardous constituents exist in areas where either treatment, storage or disposal of hazardous waste occurred. The results of this sampling visit will be used to determine whether a RCRA Facility Investigation (RFI) is necessary at the facility.

The TES X Contractor has evaluated facility information gathered during the Preliminary Review (PR) and the Visual Site Inspection (VSI) in an effort to identify areas of the facility where hazardous constituents exist. Based on this information, M&E recommended that the soil be sampled in the area of the on-site Wastewater Treatment Plant (WWTP) Underground Process Tank and that wipe samples be collected from the container storage racks and the concrete pad underneath the racks. However, during a telephone conversation on May 29, 1991 between TES X personnel and Mr. Chris Boehm, Manager of Shop Support Safety and Environmental Protection for GE, it was discovered that GE planned to remove the Underground Process Tanks in early September 1991. After conferring with the U.S. EPA Work Assignment Manager (WAM), TES X personnel decided to collect split soil samples from GE during the tank

removal. On August 9, 1991, the WAM informed TES X personnel that GE had removed the tanks without giving notice to the EPA. Results of analyses from soil samples collected during the tank removal indicated the presence of total metals and volatile organic compounds (VOCs) in the soil around the tanks. GE has decided that the level of contamination in the old tank area is not sufficient to warrent a removal action. TES X personnel will collect soil samples from the former tank area in an attempt to verify the results of GE's analysis.

2.2 Site Background

The General Electric (GE) facility is located on approximately 38 acres within the city limits of West Burlington, Iowa (Figure 1). The site lies within the southeast quarter of Section 36, Township 30 north, Range 3 west, in Des Moines County. General Electric has conducted manufacturing operations at the site since 1961.

The site is located south of U.S. Highway 34 at the corner of West Burlington Road and Agency Road (Figure 2). Manufacturing and administrative operations are conducted in the 340,000 square feet plant. Immediately bordering the facility on the east is an Iowa State Utilities substation. The property located across Agency Road to the south and the properties located across West Burlington Road to the west are used for agriculture and single-family residences. An apartment complex is located north of U.S. Highway 34.

GE has occupied the site since 1961. According to a record of deeds, obtained from the Des Moines County Auditor's Office, the western 28 acres of the property along Burlington Avenue was owned by Clarence G. Pfadenhauer from 1944 until 1956. According to a facility manager, Mr. Pfadenhauer used the land for agricultural purpose. The eastern portion of the site was owned by the Chicago, Burlington and Quincy Railroad Company. In 1956, both properties were sold to the Burlington Chamber of Commerce. The Burlington Chamber of Commerce sold the property to GE in 1956.

The GE facility originally functioned as an appliance control center. The current switch gear operation began in 1962. Since that time the facility has been dedicated to the manufacture of medium voltage switchgear and switchboard apparatus. Operations at the site include metal machining, sheet metal forming, painting and assembly of fabricated metal parts to form switchgear cabinets. Operations also include plating of copper and aluminum bus bars used in the switchgear.

Bus bars are used either to carry current from the switchgear or to ground the switchgear. The painting of the metal parts that form the switchgear cabinets and the degreasing and plating of the bus bars generate the hazardous waste streams at the facility. The waste streams generated as a result of the manufacturing process are: paint filters and miscellaneous paint sludge, spent 1,1,1-trichloroethane, contaminated masking tape and filters, spent thinner and waste paint, silver cyanide contaminated rags, WWTP sludge, spent freon, spent silver cyanide solution, E-coat sludge and filters, and various fumes from scrubbers (cyanide, acid, and alkaline).

No significant compliance actions have been taken against the facility. The GE facility is currently under interim status for container storage. The facility submitted a Part B Permit Application on November 1, 1988. This application is currently under review by EPA.

The geology of the site consists of glacial till of varying thicknesses (20 to 25 feet on the average). The till consists of clay with some silt and traces of sand. The bedrock underlying the site consists of thin layers of shale overlying siltstone, dolomite, and

limestone. These units have been identified in the region as the Osagean series Burlington - Keokuk formation. This Mississippian age formation is underlain by numerous layers of lower Mississippian age, Kinderhookian series limestones and dolomites. The combined thickness of the Mississippian aquifer is approximately 600 feet.

The limestone and dolomites of the Osagean series reportedly yield about five to fifteen gallons of groundwater per minute. Some municipal wells in the region are capable of producing up to 40 gallons per minute. Yields from the Kinderhookian series are low, generally one to three gallons per minute, although localized yields of up to 30 gallons per minute have been reported. During the 1956 on-site geotechnical investigation, groundwater was reached in the borings at an average depth of approximately two feet. Groundwater flow into the region is towards the southeast.

2.3 Rationale for Sampling Activities

Sampling activities to be performed by TES X personnel are listed below.

SWMU No. 4, WWTP Underground Process Tanks.

Two tanks that were used in the facility's WWTP were buried outside the west wall of the facility (Figure 3). These ten year old fiberglass tanks were designated as Tank #6 and Tank #7. Tank #6 was a 2,700 gallon flow-through process tank that held caustic cleaners used in the WWTP. Tank #7 was a 4,700 gallon flow-through tank that was used to collect the waste waters following cyanide treatment and chrome reduction (see subsection 2.4). The waste waters were pumped from Tank #7 into the clarifiers. Neither one of these tanks was provided with secondary containment.

These tanks were removed in August 1991. Soil excavated during the removal action was backfilled in the holes left by the tanks. A total of eleven soil samples were collected by GE during the tank removal. These samples included six sidewall samples and five bottom of excavation samples. These samples were analyzed for total metals and volatile organic compounds (VOCs). Metals detected in the samples include zinc (280 ppm), chromium (78 ppm), lead (42 ppm) and barium (75 ppm). The VOCs detected in the samples included 1,1,1 trichloroethane (0.027 ppm), methyl ethyl ketone (0.14 ppm) and xylene (0.06 ppm). The sample locations and an analytical summary are shown in Figures 4 and 5.

Samples of the soil will be collected from the area of the excavation to verify the results of GE's investigation. Five borings, one in each corner and one in the center of the excavation, will be drilled with a hand auger. Two samples, one at approximately four feet from the ground surface and the other at approximately nine feet from the ground surface, will be collected from each boring. These samples will be analyzed for VOCs, total metals and cyanide.

AOC C, Storm Sewer Discharge to Honey Creek.

At the request of the U.S. EPA WAM, samples will be taken of the surface water and the sediment near the discharge of GE's storm sewer into Honey Creek (Figure 6). Until May 1980, the effluent from GE's WWTP was discharged to the storm sewer. As a result, chromium, copper, zinc, silver and cyanide were detected in sediment samples collected from Honey Creek in March 1980. Chromium and zinc were also detected in the soils surrounding the WWTP tanks along with xylene and 1,1,1-trichloroethane.

Samples of the surface water and the sediment will be collected to determine if hazardous constituents are still present in the area. One sample of the surface water will be collected from the discharge pipe into Honey Creek and one sediment sample will be collected immediately underneath the discharge point. A second sediment sample will be collected further downstream. The surface water and sediment samples will be analyzed for total metals and VOCs.

AOC B, Container Storage Racks.

Until January 1989, 55-gallon drums of hazardous wastes were stored on racks located outside the east wall of the plant (Figure 3). The racks sit on a concrete pad which is not provided with secondary containment.

One wipe sample from the concrete pad beneath the storage racks will be collected to determine whether residual contamination remains in the area. This sample will be analyzed for semi-volatile organic compounds (semi-VOCs) and metals.

2.4 Anticipated Project Schedule

The sample collection days will be coordinated with the date of GE's soil removal activity. This removal activity is scheduled for early October 1991. Throughout the duration of the project, the Contract Project Manager (CPM) will maintain close contact with the WAM and the EPA Region VII Laboratory prior to and during the sampling activities. This contact will ensure that the laboratory personnel will be informed when specific samples will be shipped to the Region VII Laboratory.

3.0 KEY PERSONNEL

Key project personnel and lines of project authority are detailed on the Project Organizational Chart, Figure 7. The Technical Coordinator, John Bryan, will be the individual primarily responsible for execution of all work assignment tasks. Mr. Bryan will be in direct communication with the EPA Work Assignment Manager throughout the work assignment.

4.0 QUALITY ASSURANCE OBJECTIVES FOR ANALYTICAL DATA AND FIELD MEASUREMENTS

The quality assurance objective for analytical data is to collect environmental monitoring data of known and acceptable quality. In order to meet this objective, the following quality control parameters will be addressed: precision and accuracy; completeness; representativeness; and comparability.

4.1 Precision and Accuracy

The precision and accuracy of analytical results will be measured using laboratory duplicate and laboratory matrix spike samples. Accuracy of the analytical methods in compound identification and quantification will also be measured using a blind performance audit sample.

The precision and accuracy quality control limits (in terms of spike recoveries, duplicate results, etc.) which must be met for analytical data to be considered acceptable are established in the Region VII Environmental Service Division Operations and Quality Assurance Manual (hereafter referred to as Region VII SOPs).

Field duplicates will be collected to evaluate the precision of field sampling techniques and assess spatial variability. Duplicate samples will be collected from locations that are expected to exhibit the greatest contamination. This location will be determined based on visual observations, instrument readings and historical information.

The control limits specified above for laboratory accuracy and precision will be utilized to identify outliers (data results outside the specified control limits). If any outliers occur or if contamination is detected in the blanks, the corresponding analysis results will be flagged and the utility of the data will be assessed.

The primary quality assurance objective for field measurements is to obtain reproducible measurements to a degree of accuracy consistent with limits imposed by the intended use of the data. Thus, quality control procedures for field measurements will be limited to taking multiple readings and to calibration of instruments (where applicable).

4.2 Representativeness

The objective in addressing representativeness is to assess whether the information obtained during the investigation accurately represents the actual site conditions. For the most part, requirements of representativeness were determined during the planning stages of the investigation and are reflected in the sampling approach. Representativeness will be assessed after initial data validation and reduction and will be based only on valid data.

4.3 Comparability

The evaluation of data comparability is to ensure that the data developed during the investigation are comparable with applicable hazard criteria, data from past site investigations, and other scientific studies in the area (where appropriate). This is accomplished by using approved and consistent data collection procedures and analytical methods.

Results for soil and sediment samples will be reported in ug/kg. Results for surface water and wipe samples will be reported in ug/l and $\mu g/100\ cm^2$ respectively. These units are comparable with results of previous investigations and will be adequate for assessing public health risks associated with the site contamination.

4.4 Completeness

The objective for completeness is that the investigation provide enough valid data for the goals of the investigation to be met. Completeness will be assessed by comparing the number of valid sample results to the number of samples collected. The completeness goal is 100% for these samples.

5.0 SAMPLING AND ANALYSIS SUMMARY

Soil, sediment, and surface water, will be analyzed for total metals and VOCs in conformance with Region VII SOPs. Wipe filters will be analyzed for total metals and semi-volatiles in conformance with Region VII SOPs.

The proposed samples for GE are summarized in Table 1. This table includes sample matrices, sample types, sample locations, analytical parameters, sample preservation requirements, technical holding times (from collection to analysis), sample containers, and minimum volumes required for analysis. Included in this table are the corresponding number of QA/QC samples

(blanks, etc.) to be collected. Table 2 is a Region VII Analytical Services Request Form which summarizes the required analytical services for the Region VII laboratory.

6.0 SAMPLING PROCEDURES

Field procedures to be performed by TES X personnel are listed below. Fraction containers from all the samples will be placed immediately on ice in a cooler for transport to the Region VII Laboratory. Chain-of-Custody forms will be completed for each sample as discussed in Section 9.0. Decontamination procedures and disposal of investigation-derived waste is described in Sections 11.0 and 12.0 respectively. Required sampling equipment is listed in Table 3.

6.1 Soil Samples

Ten soil samples will be collected from the area excavated to remove the two WWTP tanks. A total of five borings will be completed in the excavation. Two samples, one at a depth of four feet from the ground surface and the other at a depth of nine feet from the ground surface, will be collected from each boring. The sampling locations are shown on Figure 8.

6.1.1 Soil Sample Collection

The soil samples will be collected using a decontaminated stainless steel hand auger with an inside diameter of three inches. Soil sample fractions will be collected in the following order: VOCs, total metals, and cyanide.

Material for the VOC fraction of each soil sample will be removed from the bucket of the hand auger and immediately placed into two 40 ml glass vials. After the VOC fraction has been collected, the material remaining in the bucket of the hand auger will be placed into a decontaminated stainless steel mixing bowl. Enough material will be extracted with the hand auger to fill two 8-ounce jars. The material will be thoroughly mixed with a decontaminated stainless steel spoon before being placed into the 8-ounce jars. One 8-ounce jar will be filled for the total metals fraction and the other will be filled for the cyanide fraction. All of the sample containers will be labeled and sealed following the procedures outlined in Section 9.0.

6.2 Surface Water Samples

One surface water sample will be collected from the discharge point of GE's storm sewer into Honey Creek. If water is flowing from the storm sewer, the sample will be collected at the storm sewer outlet. If water is not flowing in the storm sewer, the surface water sample will be collected from Honey Creek directly underneath the storm sewer outlet. The surface water sample will be analyzed for total metals and VOCs.

6.2.1 Field Measurements and Pre-Sampling Activities

Field measurements of water temperature, pH and specific conductance will be performed by TES X field personnel. Observations and measurements will be recorded in the field logbook by TES X personnel. These records will consist of a physical description of the water, order of sample collection, field measurements and sample handling and preservation.

6.2.2 Surface Water Sample Collection

The sampling point is shown on Figure 6. As mentioned above, if water is flowing in the storm sewer, the sample will be collected at the outlet to Honey Creek. The sample will be collected by catching the water flowing from the outlet in a 1 liter cubitainer.

If water is not flowing in the storm sewer, the 1 liter cubitainer will be carefully submerged into Honey Creek directly beneath the outlet. After the bottle has filled, it will be preserved, sealed, labeled and submitted to the laboratory for analysis following the procedures outlined in Section 9.0.

6.2.3 Quality Assurance/Quality Control Samples

A duplicate water sample will be collected to evaluate the precision of the sample collection, management, and analysis procedures and environmental variability. The duplicate sample will be collected at the same location as the original sample. The duplicate sample will be obtained by filling a second 1 liter cubitainer immediately after the original sample has been collected. The duplicate sample will be submitted with the original sample to the laboratory for analysis.

6.3 Sediment Samples

Two sediment samples will be collected from Honey Creek. One of the sediment samples will be collected immediately underneath GE's storm sewer outlet (Figure 6). The second sediment sample will be collected downstream of the outlet. The location for the second sample will be within 100 yards of the outfall. The sediment sample will be analyzed for total metals. The collection point of second sediment sample will be identified in the field. A sketch will be entered in the logbook showing the approximate sample location. Sediment samples will be analyzed for total metals, cyanide and VOCs.

6.3.1 Sediment Sample Collection

The sediment samples will be collected with a stainless steel hand auger unless the consistency of the media is too thin. In this case the sediment samples will be collected with a coliwasa tube.

If the sediment has a high viscosity, the following sample collection procedure will be used. The samples will be collected with a decontaminated stainless steel hand auger with an inside diameter of 3 inches. The hand auger will be used to bore down 6 inches. Material for the VOC fraction of each sediment sample will be removed from the bucket of the hand auger and immediately placed into two 40 ml glass vials. After the VOC fraction has been collected, the material remaining in the bucket of the hand auger will be placed into a decontaminated stainless steel mixing bowl. Enough material will be extracted with the hand auger to fill two 8-ounce jars. The material will be thoroughly mixed with a decontaminated stainless steel spoon before being placed into the 8-ounce jars. One 8-ounce jar will be filled for the total metals fraction and the other will be filled for the cyanide fraction. All of the sample containers will be labeled and sealed following the procedures outlined in Section 9.0.

If necessary, a coliwasa tube will be used for sample collection. One coliwasa tube will be used for each sample location. Two coliwasa sampling procedures for sediment sampling are described below. One method is for underwater sediment.

The other method is for surface sediment. The procedure for sampling surface sediment with a coliwasa tube is as follows:

1. Determine that the sampler is functioning properly. Adjust the locking mechanism if necessary to assure that the neoprene rubber stopper provides a tight closure.

2. Put the sampler in the open position by placing the stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.

3. Slowly lower the sampler into the sediment. Lower the sampler at a rate that permits the levels of the liquid inside and outside the sample tube to be about the same.

4. When the sampler stopper reaches the bottom of the sediment layer, or the sampler is fully extended, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the T handle until it is upright and one end rests tightly on the locking block.

5. Slowly withdraw the sampler from the sediment with one hand while wiping the sampler tube with a disposable cloth or rag with the other hand.

6. Carefully discharge the sediment sample into a suitable sample container by slowly pulling the lower end of the T handle away from the locking block while the lower end of the sampler is positioned in a sample container.

The procedure for sampling underwater sediment with a coliwasa tube is as follows:

1. Determine that the sampler is functioning properly. Adjust the locking mechanism if necessary to assure that the neoprene rubber stopper provides a tight closure.

2. Put the sampler in the closed position by turning the T handle until it is upright and one end rests tightly on the locking block.

3. Slowly lower the sampler into the water. When the sampler touches the sediment layer, open the sampler by placing the stopper rod handle in the T-position and pushing the rod down until the handle sits against the sampler's locking block.

4. Slowly lower the sampler through the sediment layer. When the sampler stopper reaches the bottom of the sediment layer or the sampler is fully extended, push the sampler tube downward against the stopper to close the sampler. Lock the sampler in the closed position by turning the T handle until it is upright and one end rests tightly on the locking block.

5. Slowly withdraw the sampler from the sediment layer and the water with one hand while wiping the sampler tube with a disposable cloth or rag with the other hand.

6. If water has inadvertently entered the sampler, decant as much of the water as possible from the top of the tube.

7. Carefully discharge the sediment sample into a suitable container by slowly pulling the lower end of the T handle away from the locking block while the lower end of the sampler is positioned in the sample container.

The sample containers will be labeled and sealed following the procedures outlined in Section 9.0.

A background sediment sample will be collected from Honey Creek upstream of GE's storm sewer outlet if an upstream area is accessible. If no upstream locations are accessible, the background sample will be collected from a location greater than 100 yards downstream from the outlet. The applicable above procedures for extracting the samples and collecting the fractions will be applied for the background samples. The fraction containers will be sealed and labeled following the procedures outlined in Section 9.0.

6.3.2 Sediment Quality Assurance/Quality Control Samples

The following Quality Assurance/Quality Control (QA/QC) samples will be collected by TES X personnel. These samples are needed to verify the validity of the analytical results of samples collected by TES X personnel and to assess if the samples may have been contaminated as a result of container contamination, field methods, preservative contamination, contamination during transportation to and from the site, or laboratory contamination. All QA/QC samples will be submitted with the original samples to the laboratory for anlaysis. QA/QC samples will be labeled in accordance with EPA Region VII SOP 2130.2A. Specifically, duplicate and field blanks will be labeled "D" and "F", respectively, along with their unique sample number. Descriptions of QA/QC sample will be recorded in the site logbook.

- Duplicate Sample: A duplicate sediment sample will be collected to evaluate the precision of the sample collection, management, and analysis procedures and environmental variability. The duplicate sample will be collected from an area immediately adjacent to the first sample location. The fractions for the duplicate sample will be obtained with the same procedure used to collect the original sample fractions. Duplicate samples will be submitted with the original samples to the laboratory for analysis.

- Rinsate Blank: A Rinsate blank will be collected before the sediment samples are extracted. After the hand auger has been decontaminated thoroughly, it will be rinsed with deionized, distilled water obtained from the Region VII Laboratory. The rinse water will be poured over the hand auger and collected in a basin. The VOC fraction of the rinsate sample will be collected first by carefully pouring the water into two 40 ml glass vials so that a meniscus will be left on the top. After capping the vial with a Teflon-lined white lid, the vial will be inverted and tapped to determine that no air bubbles were trapped in the vial. Water for the metals fraction will be poured into a 1 liter plastic cubitainer. Nitric acid will be added (approximately five ml per liter) to the metals fraction as a preservative. Water for the cyanide fraction will also be poured into a 1 liter plastic cubitainer. Sodium hydroxide will be added as a preservative until the pH is 12 or greater. The fraction containers

will be sealed and labeled and placed immediately into a cooler for transport to the Region VII Laboratory.

- Trip Blanks: One soil trip blank and one water trip blank will be obtained from the Region VII Laboratory.

6.4 Wipe Sample

A wipe sample will be collected from the concrete pad beneath the container storage racks located outside the east side of the building. The sample will be used to determine if any residual contamination exists.

6.4.1 Wipe Sample Collection

The wipe sample from the concrete pad beneath the storage racks will be collected by thoroughly wiping a 100 cm^2 of the pad with a sterile gauze pad soaked with distilled dionized water. A paper template will be used to mark the designated area to be sampled. The sampler will then put on a pair of clean, chemical-protective, disposable gloves. The 3 inch by 3 inch sterile gauze pad will be removed from its package, held by one corner and sprayed with distilled dionized water until thoroughly wet. Wiping will begin at one edge of the partitioned area and progress in a systematic pattern making sure that all areas are thoroughly and equally wiped. Maximum pressure will be firmly and evenly applied to the gauze pad while wiping. After wiping is complete, the gauze pad will be folded in half with the exposed side in, then folded over again without allowing it to contact any other surface. The wipe will then be placed into an 8-ounce glass jar. This procedure will be used to collect semi-volatile and metal fractions of the wipe sample. Separate gauze pads will be used for each fraction. Separate areas of the concrete pad will be wiped for each fraction. Gloves will be changed between each fraction or if one of the gloves touches the surface being wiped. All the sample containers will be labeled and sealed following the procedures outlined in Section 9.0.

6.4.2 Wipe Sample Quality Assurance/Quality Control Samples

The following Quality Assurance/Quality Control (QA/QC) samples will be collected by TES X personnel. These samples are needed to verify the validity of the analytical results of the samples collected by TES X personnel and to assess if the samples may have been contaminated as a result of container contamination, field methods, preservative contamination, contamination during transportation to and from the site, or laboratory contamination. All QA/QC samples will be submitted with the original samples to the laboratory for analysis. QA/QC samples will be labeled in accordance with EPA Region VII SOP 2130.3A. Specifically, replicate samples will be labeled "D" along with their unique sample number. Descriptions of QA/QC samples will be recorded in the site logbook.

Replicate Samples: A replicate wipe sample will be collected to evaluate the precision of the sample collection, management, and analysis procedures and environmental variability. Replicate sample fractions will be taken from areas adjacent to each wipe sample fraction location. The replicate sample will be collected using the same method as the wipe sample. The replicate sample will be submitted with the original sample to the laboratory for analysis.

Field Blank: A field blank will be collected to identify potential introduction of contaminants via the sampling methods, the pad, solvent or sample container. The field blank sample will consist of a sterile gauze pad, soaked with dionized distilled water and placed in an 8-ounce jar. Field blank fractions will be collected for semi-volatile and metals analysis. The fraction containers will be sealed and labeled following the procedures outlined in Section 9.0.

7.0 REQUIRED EQUIPMENT

The equipment required for the proposed sampling activities is outlined in Table 3 at the end of this document.

8.0 CALIBRATION PROCEDURES AND PREVENTATIVE MAINTENANCE OF FIELD EQUIPMENT

Required calibration and preventive maintenance of field equipment is summarized in Table 4 at the end of this document.

9.0 SAMPLE HANDLING AND CUSTODY PROCEDURES AND DOCUMENTATION PROCEDURES

This section describes the procedures to be followed to prepare the samples for shipment and to document the sample collection activities.

9.1 Sample Handling, Shipment, and Custody Procedures

Sample handling, shipment, and custody procedures that will be followed are outlined below.

a. Sample identification labels will be completed in accordance with U.S. EPA Region VII protocol as specified by U.S. EPA Region VII SOP-2130.3A and will be attached to the sample containers. The completed labels will be covered with clear label tape.

b. Following the filling of the sample containers and the addition of applicable preservatives, the containers will be wiped clean with a kim-wipe to remove any liquids on the container surface. The water level in each bottle will be marked with a grease pencil. The sample container caps will be checked and taped with electrical tape to assure that they are properly secured.

c. Chain-of-custody forms and U.S. EPA Region VII field data sheets will be completed in accordance with U.S. EPA Region VII protocol as specified by Region VII SOP-2130.2A and SOP-2130.3A.

d. The white and yellow copies of the chain-of-custody form and the original U.S. EPA Region VII field data sheets will be placed in a zip-lock bag and taped to the inside of the cooler lid. (Note: one copy of each form will be retained.)

e. Foam packing materials will be placed on the bottom and sides of the cooler to prevent sample container breakage. The cooler will then be lined with a large plastic bag.

f. Glass sample containers will be wrapped with foam packing material and the foam ends will be taped so that the foam does not unravel. This prevents the containers from falling sideways and breaking.

g. Cubitainers and wrapped glass containers will be placed right side up into the lined cooler and void spaces will be filled with packing material. Bagged ice will then be placed on top of the samples (outside of the bag containing the samples). When packing glass containers, several layers of foam packing material will be placed on top of the ice.

h. The plastic bag will be sealed by tying a knot using the top of the plastic bag or with a strong adhesive tape (i.e. fiber tape).

i. Finally, the cooler will be taped for shipment, the appropriate labels for shipping environmental samples will be attached, and custody seals will be placed on opposite ends of the top of the cooler. No labels will be obscured on the cooler.

j. The cooler will then be transported to the Region VII Laboratory or the Federal Express Office within 24 hours of sample collection for overnight shipment of the samples to the U.S. EPA Region VII Laboratory. If Federal Express is used, a Federal Express Airbill will be completed and attached to the cooler.

9.2 Sampling Documentation Procedures

Sampling documentation will consist of preparation of the following records:

Site Logbook - site logbook entries will include:

- general site conditions;
- weather conditions during sampling activities;
- onsite personnel;
- raw field measurement data;
- equipment calibration data;
- sample collection data;
- sample preservation and shipment data including sketches showing location of surface water samples;
- health and safety information;
- deviations from this QAPjP and standard practice; and
- decontamination procedures; and management of investigation-derived wastes; and
- type of analysis to be performed on the samples.

Logbooks used for sampling event documentation will be bound, consecutively numbered documents. Each entry will be preceded by a date and signatures of all individuals making entries on that page. Logbook entries will be written in indelible ink and will contain information regarding field activities. Corrections will be made by drawing a single line through the incorrect entry and initialing the correction.

Photographs - Photographs will be taken to document the following information:

- topographic features;
- sampling locations;
- field measurement procedures;
- sample collection procedures;
- sample appearance;
- decontamination procedures;
- management of investigation-derived wastes;

- safety procedures; and
- deviations from the approved QAPjP and standard practice.

Photographs will be identified in the site logbook by the date and time of the photograph, the photographer and witness, roll and frame number, general direction of view, description of reference objects and a description of the subject. The camera type and ASA of the film will also be recorded in the logbook.

10.0 SITE SAFETY

Site safety is specifically addressed in the site-specific Health and Safety Plan. This plan will be adhered to by all TES X **oversight** personnel.

11.0 DECONTAMINATION PROCEDURES

Non-disposable sampling equipment used for soil and sediment, sampling will be decontaminated prior to sampling and between each sampling location. The equipment will be washed with soapy water (alconox), using a brush to loosen soil that sticks to the surface. Once all visible soil has been removed, the equipment will then be rinsed with distilled water. For wipe samples, latex gloves will be disposed following each sample taken.

12.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE MATERIALS

Investigation-derived wastes (IDW) will be handled in accordance with the proposed IDW Disposal Strategy outlined in the EPA IDW Management Guidance Manual - Second Draft, May 25, 1990. TES X Personnel will attempt to include its IDW with the facility's IDW. If the facility does not permit this, all IDW will be double-bagged and returned to the EPA Laboratory in Kansas City, Kansas. Immediately upon notification that TES X personnel cannot leave its IDW on-site, the TES X sampling team will contact Janice Kroone of EPA Region VII Laboratory and make arrangements for IDW storage pending sample analysis.

13.0 LABORATORY CALIBRATION AND PREVENTATIVE MAINTENANCE PROCEDURES AND SCHEDULES

The laboratory to be selected by the U.S. EPA for analysis of the samples will participate in regular maintenance and calibration of laboratory instruments and equipment. The specific procedures and records of calibration and maintenance can be obtained directly from the laboratory.

14.0 PERFORMANCE/SYSTEM AUDITS

The Region VII Laboratory and contract facilities used by TES X personnel are required to take part in a series of performance and system audits conducted by the National Enforcement Investigations Center. Laboratory quality control data and performance evaluations will be submitted along with analytical results for assessment by program reviewers. No other types of audits are anticipated for this project; however, unannounced field audits may be performed at the discretion of Quality Assurance Officers for either the U.S. EPA or the TES X Contractor. The objective of a field audit is to evaluate the execution of sample identification, sample control, chain-of-custody procedures, field documentation, and sampling operations. This evaluation is

based on the extent to which the site-specific Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPjP), and applicable Standard Operating Procedures (SOPs) are followed.

15.0 DATA REDUCTION, VALIDATION, AND REPORTING

Sample analyses and reporting will be the responsibility of the U.S. EPA Region VII Laboratory or their designated laboratory. Data reduction of the analytical results will be the responsibility of the laboratory performing the analyses. Data validation will be performed by U.S. EPA Region VII Laboratory personnel or a designated contractor.

16.0 DATA ASSESSMENT

The U.S. EPA Region VII Laboratory or the designated laboratory will have, and will implement, standard procedures to assess data quality. The U.S. EPA Region VII Laboratory will be responsible for data assessment and summaries. The TES X Contractor will review this assessment if directed to do so by the U.S. EPA Work Assignment Manager.

17.0 CORRECTIVE ACTION

Corrective action procedures that may be implemented based on the QA results or detection of unacceptable data will be developed when and where required. M&E's Technical Coordinator will be primarily responsible for taking corrective actions. Any problems resulting in loss of data or data integrity will be reported by the Technical Coordinator to the U. S. EPA Work Assignment Manager.

18.0 REPORTS

Information concerning the sampling trip and laboratory analytical results will be incorporated into the Final RFA Report and submitted to the U.S. EPA WAM.

19.0 REVISIONS TO THE SAP/QAPjP

Revisions to this SAP/QAPjP to address subsequent investigations at this site will be incorporated by addenda.

TABLES

TABLE 1

SAMPLE ANALYSES SUMMARY

		VOCS	SEMI-VOLATILE ORGANICS	METALS		CYANIDE	
	PRESERVATION	Cool to 4 Degrees Celsius	Cool to 4 Degrees Celsius	Add Nitric Acid to pH<2, (1) Cool to 4 Degrees Celsius		Add Nitric Acid to pH>12,(1) Cool to 4 Degrees Celsius	
	HOLDING TIME	7 Days	14 Days	180 Days from Collection		180 Days from Collection	
	CONTAINERS	2-40 ml Glass Vials Teflon-lined Caps	8 oz. Glass jar	Water: 1-liter plastic cubitainer All Others: 8-oz. Glass Jars		Water: 1-liter plastic cubitainer All Others: 8-oz. Glass Jars	
	REQUIRED SAMPLE VOLUME	Container Completely Full, No Headspace	Container Completely Full	Container Completely Full		Container Completely Full	
SAMPLE LOCATION	SAMPLE MEDIA	# OF 40-ML GLASS VIALS	# OF 8-OZ. GLASS JARS	# OF 8-OZ. GLASS JARS	# OF 1-LITER PLASTIC CUBITAINERS	# OF 8-OZ. GLASS JARS	# OF 1-LITER PLASTIC CUBITAINERS
WWTP Tanks	Soil	20		10		10	
Honey Creek	Sediment	4		2		2	
Honey Creek (duplicate)	Sediment	2		1		1	
Honey Creek (background)	Sediment	2		1		1	
Honey Creek (rinsate blank)	Water	2			1		1
Honey Creek	Surface Water	2			1		
Honey Creek (duplicate)	Surface Water	2			1		
Storage Racks	Wipe Sample		1	1			
Storage Racks (replicate)	Wipe Sample		1	1			
Storage Racks (Field Blank)	Wipe Sample		1	1			
TOTAL		34	3	17	3	14	1

(1) = For Water Samples Only

TABLE 2

US EPA REGION VII ANALYTICAL SERVICES REQUEST FORM

Activity Number:		Date:	9-9-91
Site Name, City, & State:	General Electric Switchgear Operation West Burnington, Iowa		
EPA Project Leader:	Don Lininger		
Div/Branch:	RCRA/IOWA	Phone No.:	(913) 551-7724
Contractor Contact:	Jeb Bryan		
Contractor:	Metcalf & Eddy	Phone No.:	(816) 891-9261
Projected Sample Delivery Date:	Early October ,1991		
Sampling Objective:	RCRA Facility Assessment Sampling Visit		

REQUEST SUMMARY

NO. OF SAMPLES	MGP CODE	MATRIX	PARAMETERS
14*	SV,SM	Soil	VOCs, Metals, Cyanide
3**	WV,WM	Water	VOCs, Metals, Cyanide
3***		Wipe Filters	Semi-VOCs, Metals

SPECIAL REQUIREMENTS OR COMMENTS

*One duplicate is included in the number of samples listed above.

**One duplicate and one rinsate sample is included in the number of samples listed above.

***One field blank and one replicate is included in the number of wipe samples. Wipe sample analysis will be reported

APPROVALS:

EPA Project Leader (Date)

Branch Chief or Section Chief (Date)

DATA REVIEW OPTIONS:

- ☐ In-Depth (justification required)
- ☐ Routine

NOTE: SUBMIT TO RQAO/ENSV 30 DAYS PRIOR TO SAMPLE DELIVERY DATE

FOLLOWING TO BE COMPLETED BY ENVIRONMENT SERVICES DIVISION ONLY:

Concurrences: ☐ Generic ☐ Site Specific ☐ Other

RQAO Comment:

LABO

Lab Assignment:

- ☐ Region VII
- ☐ CLP
- ☐ ESAT
- ☐ NP
- ☐ Other:

Scheduled Completion:

- ☐ Routine
  - (In-House: 4 weeks)
  - (CLP: 3 weeks)
- ☐ Other:

Date:

Distribution

- ☐ EPA Project Leader
- ☐ Chief, LABO/ENSV
- ☐ Chief, GNAN/LABO
- ☐ Chief, ORGN/LABO
- ☐ Chief, CLPM/LABO
- ☐ Data Coordinator
- ☐ RSCC
- ☐ EDSB
- ☐ EMCM
- ☐ EP&R TEAM LEADER
- ☐ ESAT TEAM LEADER
- ☐ Contractor: (above)
- ☐ Other:

NOTE: Sampling Supplies Request Form on Other Side

TABLE 3
REQUIRED EQUIPMENT

General Sampling Equipment

- _ Well Keys
- X Laboratory-Cleaned Sample Containers
- X Preservatives (liquids in dropper bottles)
- _ HPLC-grade Water
- X Deionized Water
- X Measuring Tape (100 feet)
- _ Sterile Disposable Pipets
- _ pH Test Paper
- X pH Meter
- X pH 4.0 buffer solution
- X pH 7.0 buffer solution
- X pH 10.0 buffer solution
- X Conductivity meter
- X Conductivity meter calibration solution (KCl, water, & iodine)
- X Thermometer
- _ Bailer (Stainless steel or Teflon)
- _ 250 ml glass beaker (pre-cleaned and foil-wrapped)
- _ Stainless steel/Teflon-coated cable
- _ Geotech bladder pump
- _ Modular sequence time control
- _ Teflon tubing and connectors
- _ Air compressor
- _ 12-volt DC power source
- _ Wrenches for fittings
- _ Screwdriver
- _ Stainless steel crimps and crimping device.

Miscellaneous Equipment

- X Paper Towels
- X Camera and Film
- X Scissors & Utility Knife
- X Duct Tape
- X Indelible Marking Pens
- _ Grease Pencils
- X Calculator
- X Miscellaneous Tools
- _ Folding Table
- X Squirt Bottle for Deionized Water
- X Kim-Wipes
- X Knife
- _ Stopwatch
- _ Spray Paint and Stencils
- _ Bungie Cords/Tie-Downs
- _ Stainless Steel Funnels
- _ Respirator Sanitizer
- _ Stainless steel Trowel
- X Zip-loc bags
- X Large Trash Bags

[Table continued on next page]

TABLE 3

REQUIRED EQUIPMENT (CONTINUED)

Shipping Equipment

X Coolers
X Foam Packing Material
X Package Tape
X Zip-Lock Bags
_ Cubitainers
X Bagged Ice
_ Thimbles (filled with activated carbon)
X Twist Ties
X Fiber Strapping Tape
_ Electrical Tape
_ Paint Cans (1 & 2 quart)
_ Can clips

Paperwork, Labels, Etc.

X Receipt for Samples Forms
_ Plain 3 X 5 White Labels
X Label Tape (clear)
_ Federal Express Airbills
X Sample Identification Labels
X Chain of Custody Forms
X U.S. EPA Region VII Field Data Sheets
X Custody Seals
_ This Side Up Labels
_ UP Arrows
_ U.S. EPA Do Not Tamper Labels
X Environmental Lab Sample Labels

Health and Safety Equipment

_ Combustible Gas Indicator
_ Draeger Tubes (cyanide) and Hand Pump
X Steel-Toed Boots
X Inner Gloves
X Nitrile Outer Gloves
X Full-Face Respirator (level C contingency)
X Combination Organic Vapor/ Dust/Mist/Fume Cartridges
_ Other Cartridges *[specify]*
X Face Shield and/or Safety Goggles
X Hard Hat
_ Disposable Boot Covers
_ Splash Apron
X Drinking Water
X Coated Tyvek (level C contingency)
_ Cotton Coveralls
_ Ear Plugs
X HNu (or other PID)
_ OVA (or other FID)
X Hazardous waste drums
X Rain gear
X First Aid Kit

Manuals/Reports

X TES X SAP/QAPjP
X TES X Health and Safety Plan
X Letters of Certification
X Letters of Introduction
X Equipment Manuals: [*list equipment required*]
_ Standard Operating Procedures for Field Measurements
_ Facility's Approved Work Plan
_ U.S. EPA's Comments on Approved Work Plan
_ U. S. EPA Region VII's Lab Assistance Manual
_ U.S. EPA Region VII SOP-2130.2A (chain-of-custody procedures)
_ U.S. EPA Region VII SOP-2130.3A (directions on completion of sample identification labels and field data sheets)

[Table continued on next page]

TABLE 3

REQUIRED EQUIPMENT (CONTINUED)

Decontamination Equipment	Filtering Equipment
X Plastic Buckets (5-gallon)	_ Filter flasks, cleaned
X Surfactant Cleanser (Alconox)	_ Rigid tubing, Y-connect (and extra lengths)
X Distilled/Deionized Water	_ 0.45-um filters
_ Methanol	_ Fiber filters (prefilters)
_ HPLC-grade Water (Volatiles)	_ Flask funnels (millipore) with washers intact
X Scrub Brushes	_ Geotech 2.4L Filter
X Spray Bottles	_ Hand pump
X Decontamination Tubs	_ Disposable Nalgene Filters
X Visquene	

TABLE 4

CALIBRATION AND PREVENTIVE MAINTENANCE OF FIELD EQUIPMENT

Equipment Item	Maintenance/ Calibration Activity	Frequency
pH Meter	Calibration according to manufacturer specifications	Daily
Conductivity Meter	Calibration according to manufacturer specifications	Daily

FIGURES

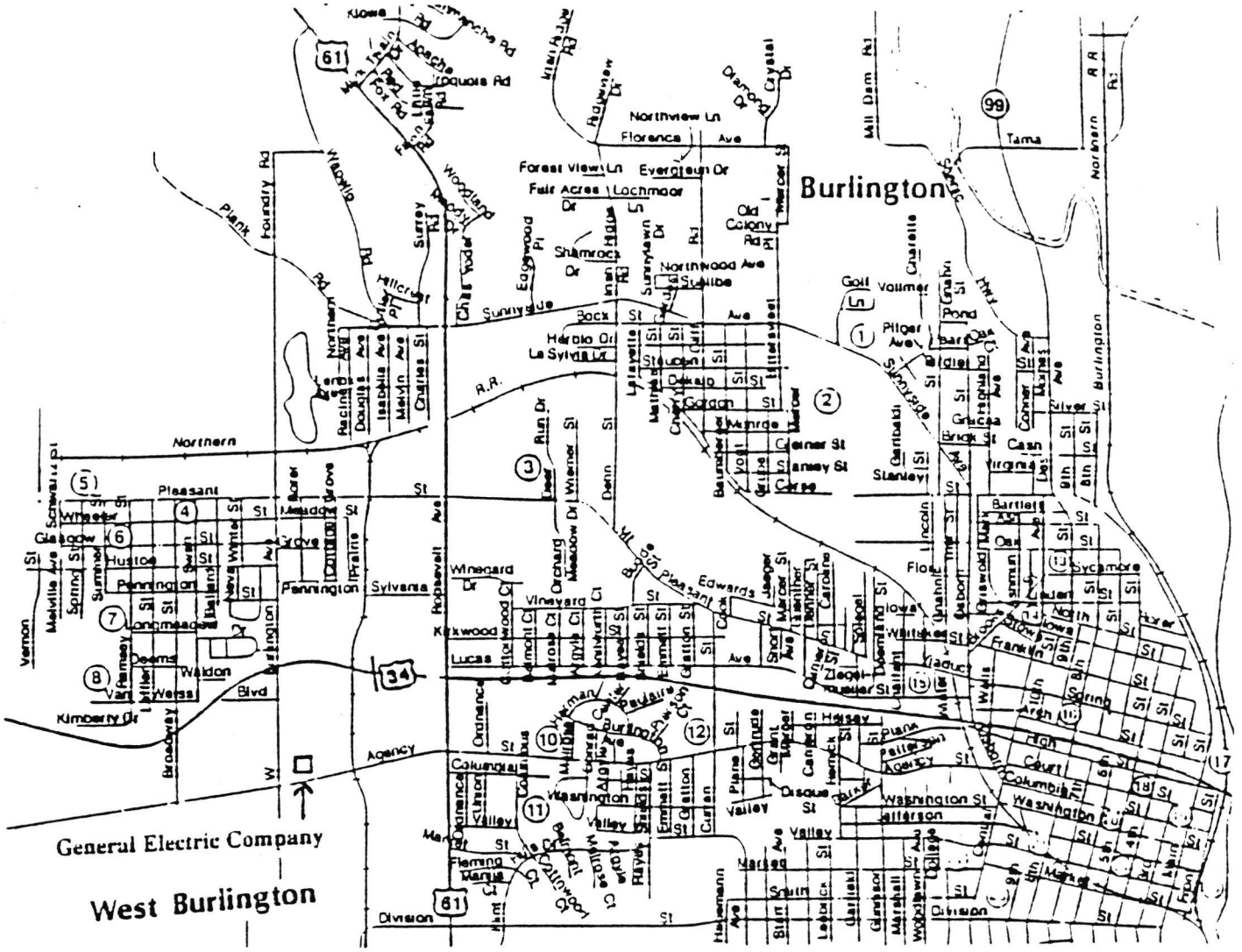


FIGURE 1
SITE LOCATION

Site: General Electric Company

Source: U.S. West Directory, Burlington-West Burlington, 1989

Scale: Not to Scale

Metcalf & Eddy, Inc

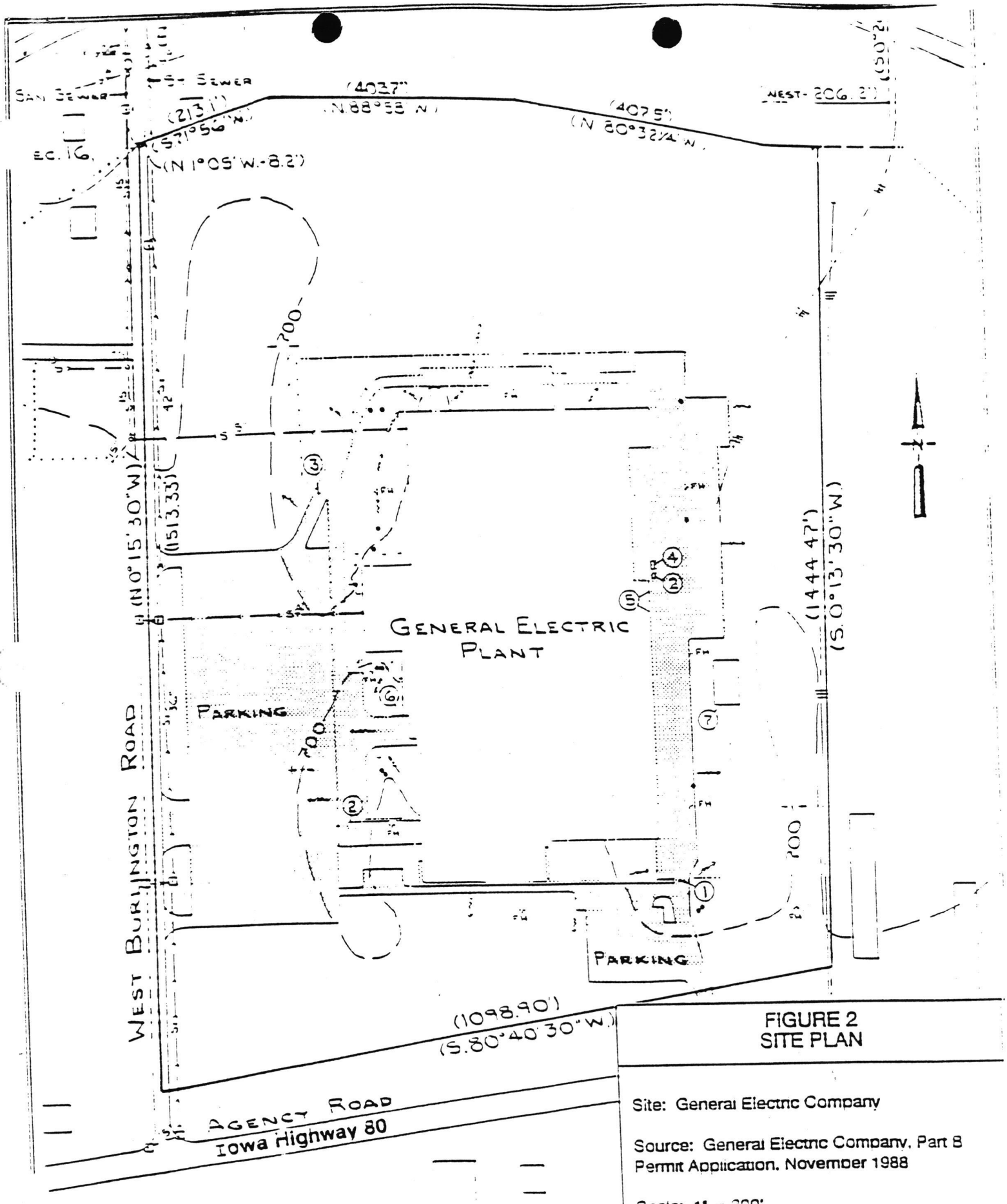


FIGURE 2
SITE PLAN

Site: General Electric Company

Source: General Electric Company, Part B Permit Application, November 1988

Scale: 1" = 200'

Metcalf & Eddy, Inc

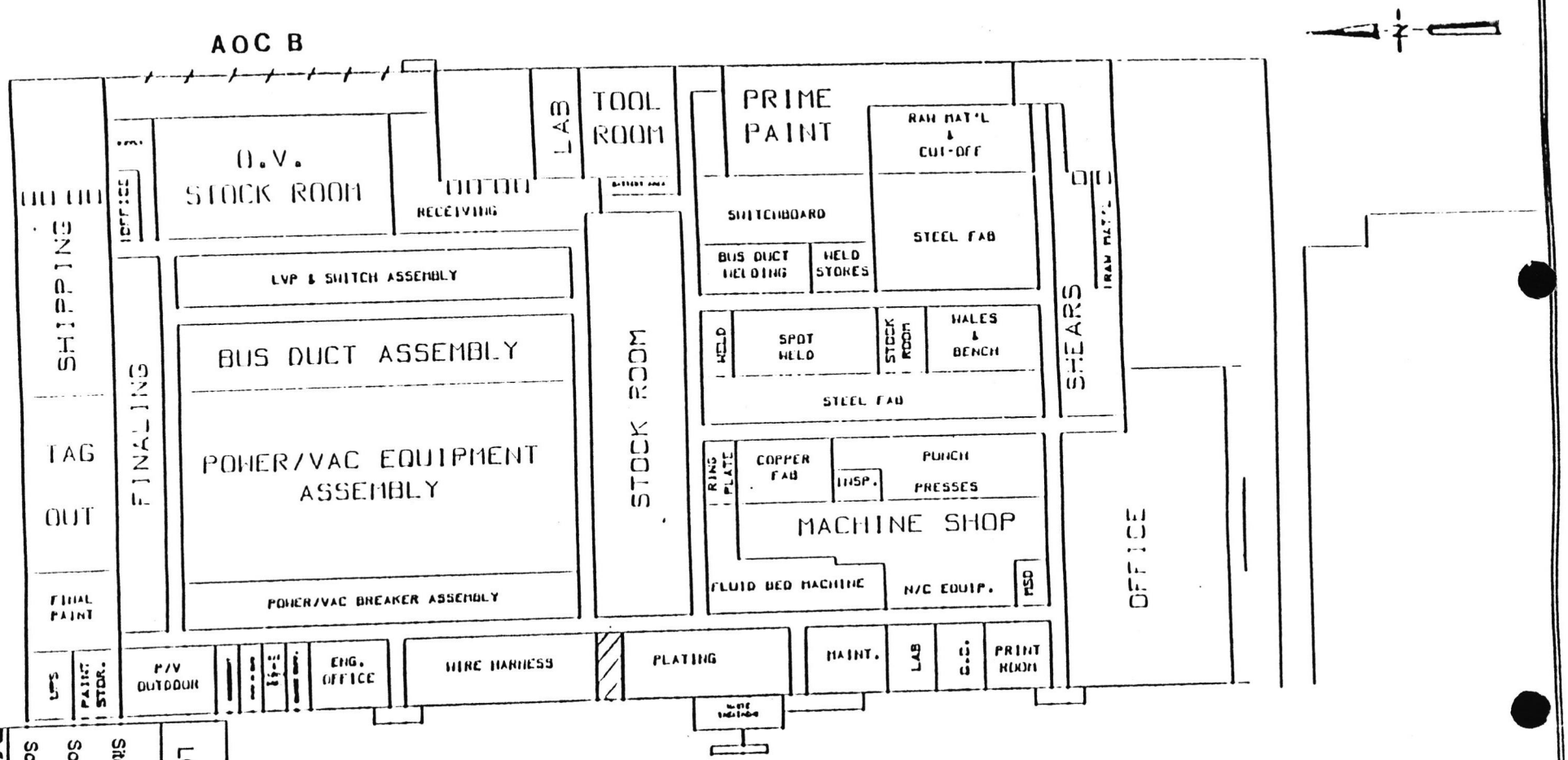


FIGURE 3
LOCATION OF SWMU 4 AND AOC B

Site: General Electric Company

Source: General Electric Company

Scale: 1" = 100'

Metcalf & Eddy, Inc

SWMU 4 - WWTP Underground Process Tanks
AOC B - Container Storage Racks

FIGURE 4

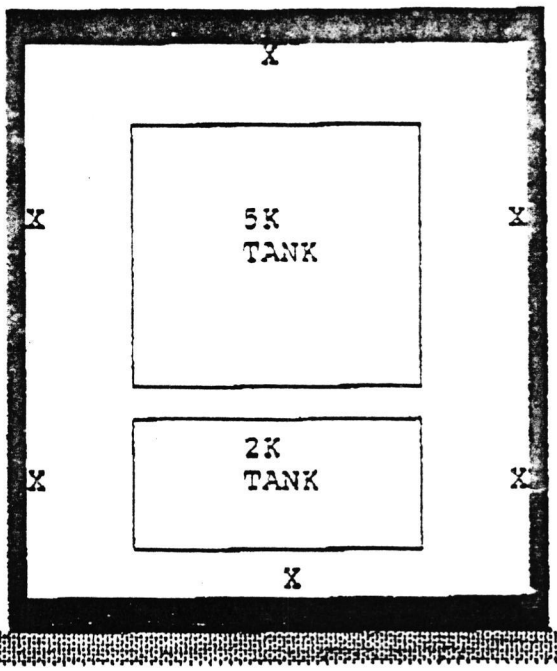
SAMPLE RESULTS TAKEN 8/8/91 - METALS
TOTAL METAL SPIKES (ppm)

N
|
|----->E

N. WALL 5K
7.7 Ba
2.7 Zn

W. WALL 5K
16.0 Cr
3.1 pb
36.0 Ba
81.0 Zn

W. WALL 2K
56.0 Cr
3.3 Ag
8.0 Ba
280.0 Zn



TOP VIEW
GE WWTP
FOOTING

E. WALL 5K
8.1 Cr
6.8 pb
40.0 Ba
30.0 Zn

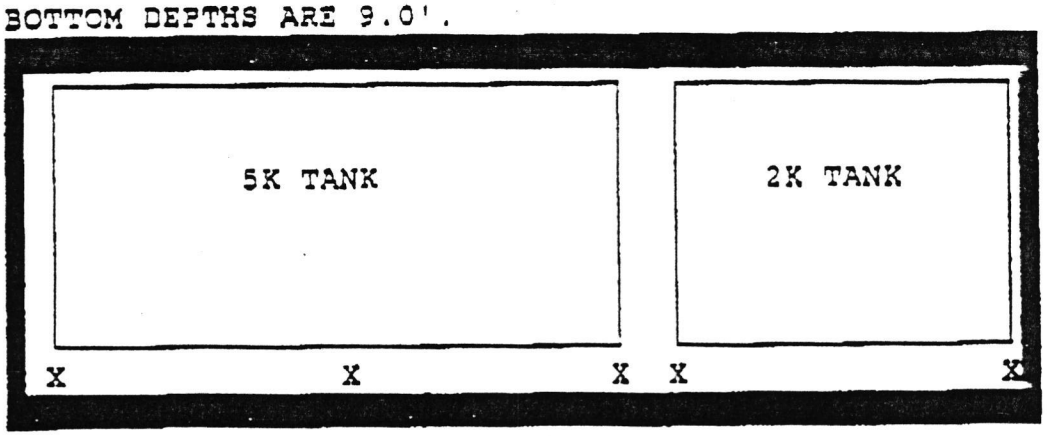
E. WALL 2K
45.0 Cr
9.6 pb
75.0 Ba
140.0 Zn

WWTP SUMP &
RETENTION TK.

S. WALL 2K
24.0 Cr
3.7 pb
23.0 Ba
36.0 Zn

** SIDE WALL DEPTHS ARE 2.5' FROM SURFACE GRADE

SIDE VIEW
BOTTOM DEPTHS ARE 9.0'.

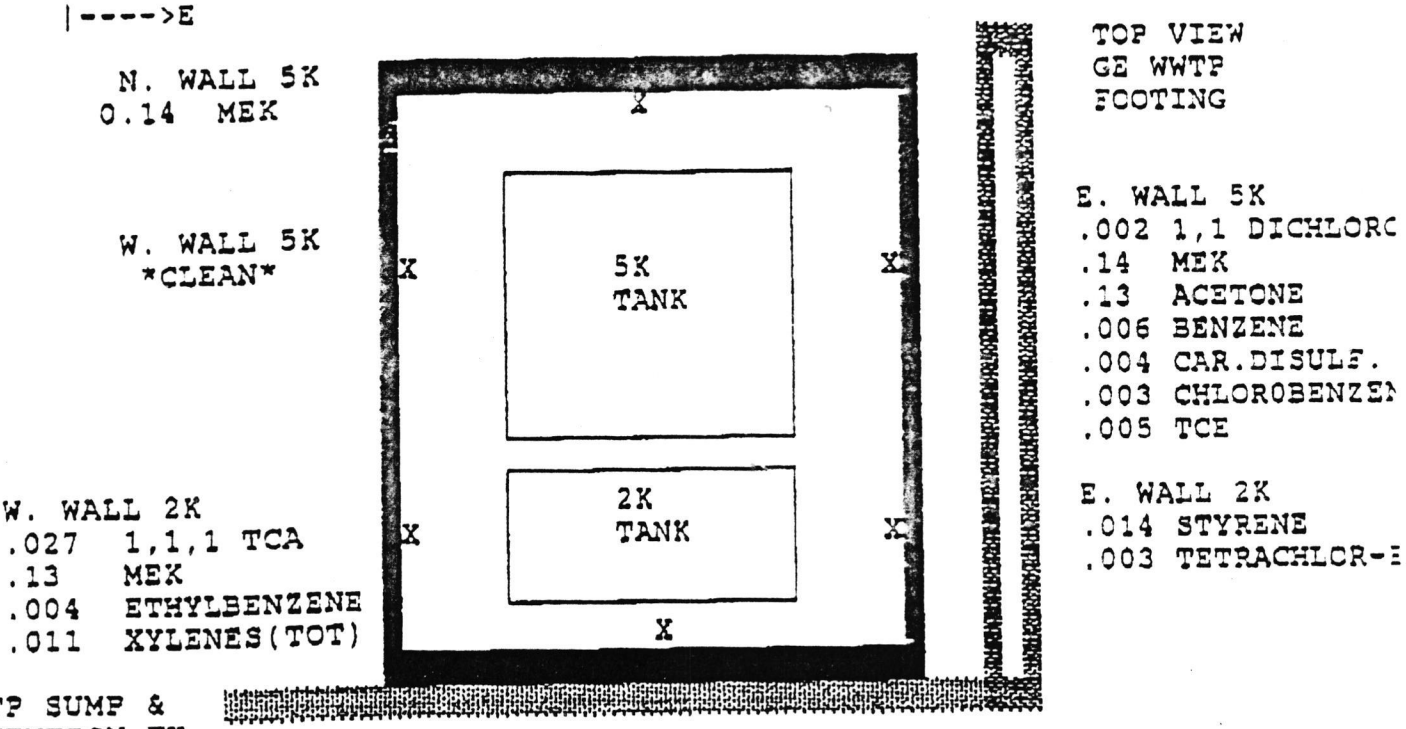


N.BOT5K	M.BOT.5K	S.BOT.5K	N.BOT.2K	S.BOT.2K
8.6 Cr	13.0 Cr	33.0 Cr	20.0 Cr	78.0 Cr
3.3 pb	4.3 pb	7.7 pb	42.0 pb	6.0 pb
27.0 Ba	39.0 Ba	60.0 Ba	36.0 Ba	31.0 Ba
102.0 Zn	52.0 Zn	87.0 Zn	240.0 Zn	170.0 Zn

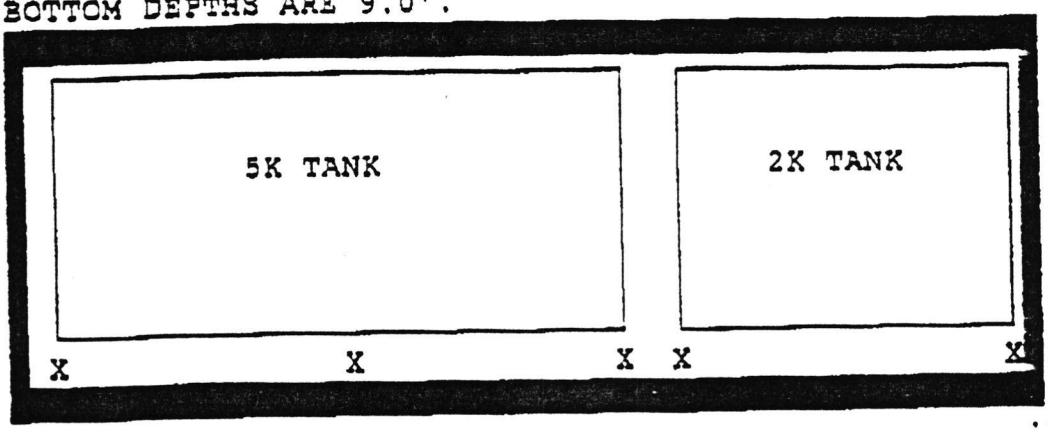
C.A. BOEHM
8/30/91

FIGURE 5

SAMPLE RESULTS TAKEN 8/8/91 - VOC'S
VOC SPIKES (ANALYSIS mg/Kg OR ppm)



SIDE VIEW
BOTTOM DEPTHS ARE 9.0'.



N.BOT5K
.13 MEK
.011 Di-chl-di-f methane
.002 Methyl-Chlor.
.005 STYRENE
.30 TETRA-C.A.
.054 XYLENES (TOT)

M.BOT.5K
.026 TCA
.16 1,4 DI-chloro-2-but ane
.002 STYRENE
.003 TETRA-C METHANE

S.BOT.5K
.14 MEK
.012 EHYL-BENZ
.044 TOLUENE
.060 XYLENE

N.BOT.2K
.13 MEK
.007 STYRENE

S.BOT.2K
.12 MEK
.004 ETHYLBE
.033 TOLUENE
.003 STYRENE
.069 TETRA-C METHANE
.017 XYLENES

C.A. BOEHM
8/30/91

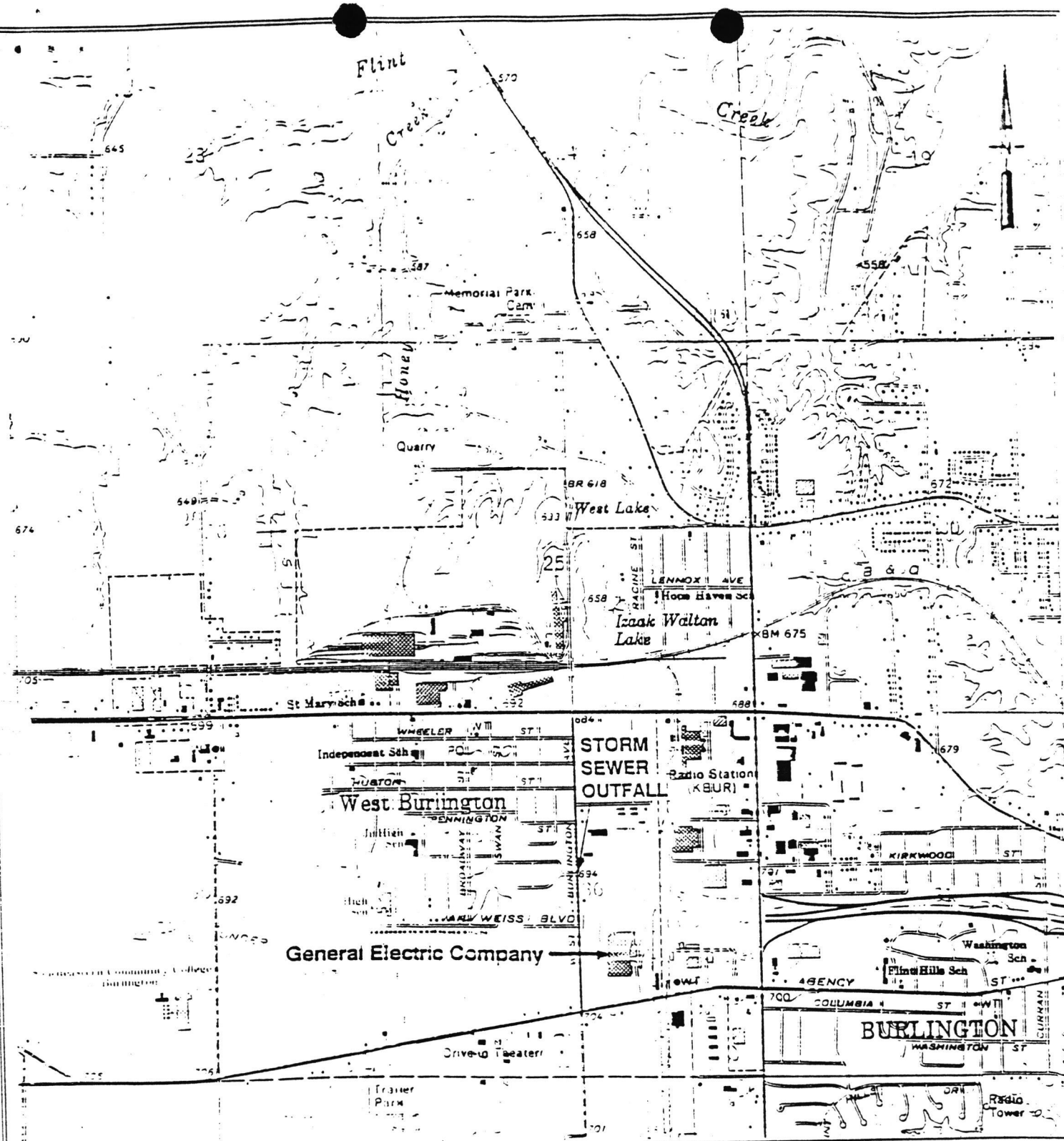


FIGURE 6
LOCATION OF AOC C

Site: General Electric Company

Source: USGS Topographical Map, West Burlington Quadrangle, Iowa 1964, Photorevised 1976

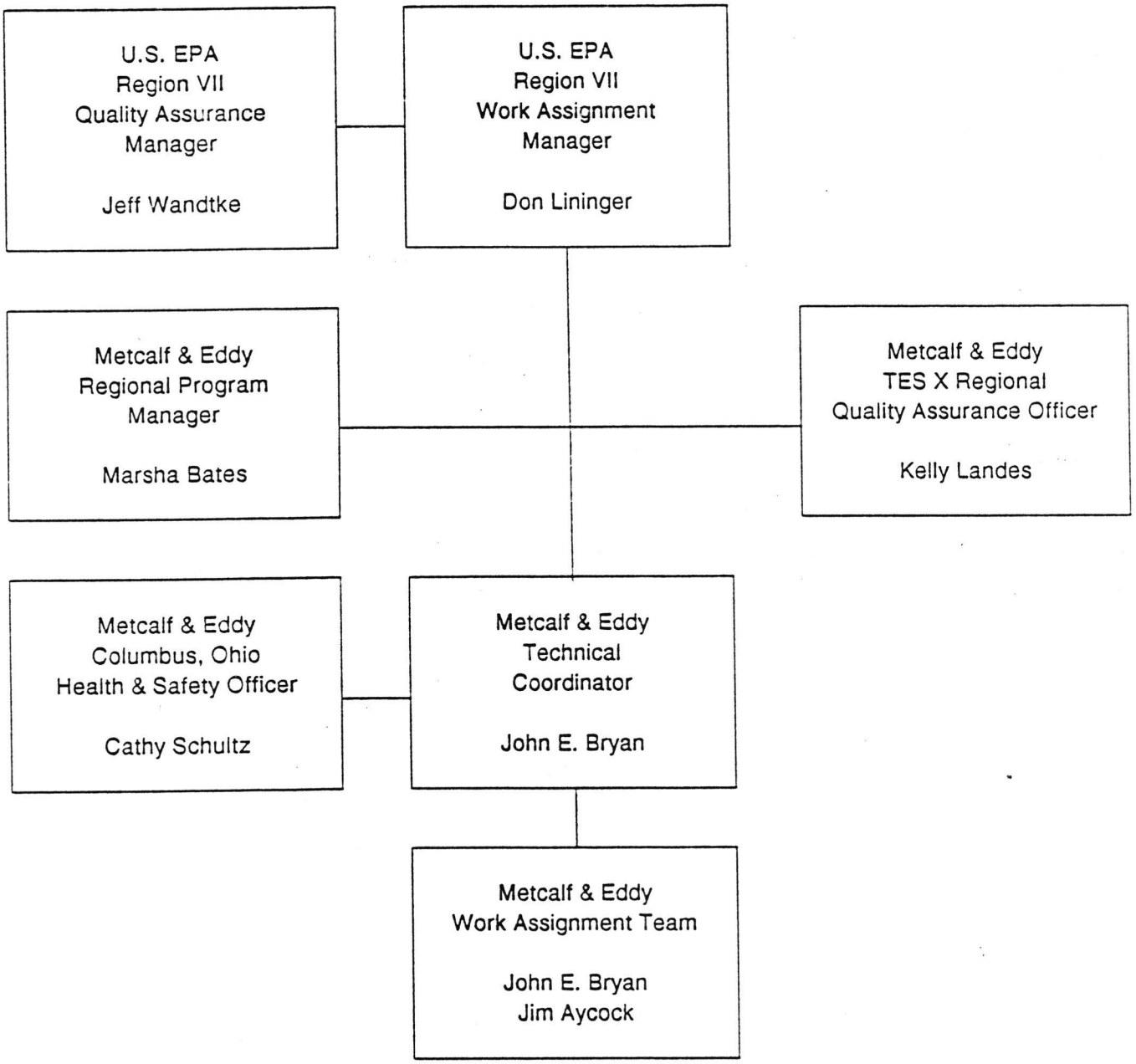
Scale: 1"=2000'

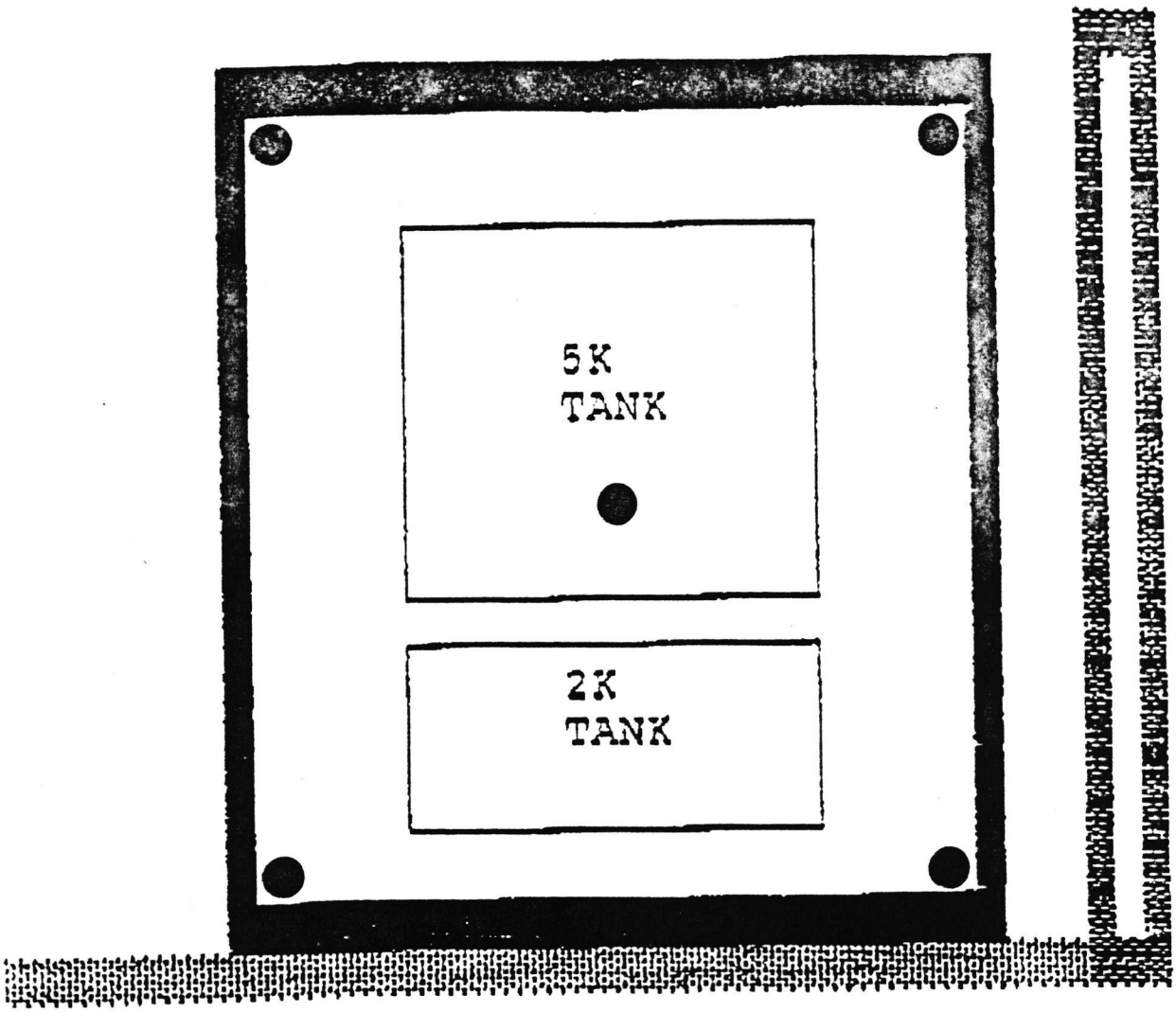
Metcalf & Eddy, Inc

Figure 7

Project Organization Chart

TES X Quality Assurance Project Plan for
General Electric Company





● Soil Sample Locations

FIGURE 8
SOIL SAMPLE LOCATIONS

Site: General Electric Company, West Burlington, Iowa

Source: General Electric Company

Scale: Not to Scale

Metcalf & Eddy, Inc

US EPA REGION VII ANALYTICAL SERVICES REQUEST FORM

Activity Number:		Date:	9-9-91
Site Name, City & State:	General Electric Switchgear Operation West Burlington, Iowa		
EPA Project Leader:	Don Lininger		
EPA Branch:	RCRA/IOWA	Phone No.:	(913) 551-7724
Contractor Contact:	Jeb Bryan		
Contractor:	Metcalf & Eddy	Phone No.:	(816) 891-9261
Projected Sample Delivery Date:	Early October ,1991		
Sampling Objective.	RCRA Facility Assessment Sampling Visit		

REQUEST SUMMARY

NO. OF SAMPLES	MGP CODE	MATRIX	PARAMETERS
15*	SV,SM	Soil	VOCs, Metals
2*	WV,WM	Water	VOCs, Metals
2**		Wipe Filters	VOCs, Metals

SPECIAL REQUIREMENTS OR COMMENTS

*One duplicate is included in the number of samples listed above.

**One field blank is included in the number of wipe samples. Wipe sample analysis will be reported in ng/cm2.

APPROVALS:

Don Lininger 9/9/91
EPA Project Leader (Date)

James V. Callier 9/10/91
Branch Chief or Section Chief (Date)

DATA REVIEW OPTIONS:

☐ In-Depth (justification required)

☒ Routine

NOTE: SUBMIT TO RQAC/ENSV 30 DAYS PRIOR TO SAMPLE DELIVERY DATE

FOLLOWING TO BE COMPLETED BY ENVIRONMENT SERVICES DIVISION ONLY:

Concurrences: ☐ Generic ☐ Site Specific ☐ Other

RQAO Comment:

LABO

Lab Assignment:

- ☐ Region VII
- ☐ CLP
- ☐ ESAT
- ☐ RECAP

Scheduled Completion:

- ☐ Routine
  - (In-House: 4 weeks)
  - (CLP: 8 weeks)
- ☐ Other:

Date:

Distribution

- ☐ EPA Project Leader
- ☐ Chief, LABO/ENSV
- ☐ Chief, GNAN/LABO
- ☐ Chief, ORGN/LABO
- ☐ Chief, CLP/LABO
- ☐ Data Coordinator
- ☐ RSCC
- ☐ EDSB
- ☐ EMCM
- ☐ EP&R TEAM LEADER
- ☐ ESAT TEAM LEADER
- ☐ Contractor: (above)
- ☐ Other:

NOTE: Sampling Supplies Request Form on Other Side